

GALEINA, G.V.; SHIROVA, Ye.K.

[production and use of starch products with a high degree of sweetness] Poluchenie i ispol'zovanie produktov vysokoi stepeni sladosti iz krakimala. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1964. 33 p.  
(MIRA 18:6)

SINIKOVA, Ye. S.

[Ion-exchange resins in the starch and molasses industry]  
Ionobmennye smoly v krakmalc-patochnoi promyshlennosti.  
Moskva, TsINTipishcheprzem, 1965. 27 p. (MIRA 18:12)

KNOROV, V.I.; KLENNIKOV, V.M.; SILEROVA, Ye.M.

Determining the deviation angles and stabilization moments of tires of  
passenger automobiles. Trudy lab.dvig.no.2:67-79 '56. (MLRA 9:9)  
(Tires, Rubber)

LAPIN, S.I.; SIDOROVA, Ye. P.; LAPINA, A. A.

Significance of bronchial pathology in surgery of pulmonary tuberculosis. Probl. tuberk., Moskva no.4:59-64 July-Aug 1951. (CIML 21:1)

1. Of Moscow Municipal Scientific-Research Tuberculosis Institute (Director -- Prof. V. L. Kynis; Head of Pulmonary Surgical Division -- Prof. S. I. Lapin).

1950, V. 1: 1950, V. 1.

Chest - Surgery

Modified extended thoracoplasty with pneumonolysis and fixation of the apex. Probl. tub.  
No. 4, 1950.

9. Monthly List of Russian Accessions, Library of Congress, December 195<sup>8</sup><sub>2</sub>, Uncl.

UDB n. VA, Yekaterina Vasil'yevna

Ultra-violet therapy in treatment of firearm (infitsirovannykh) injury.

Dissertation for candidate of a Medical Science degree.

Chair of (surg.) Internal Diseases (head prof. I. L. Varshelev)  
Saratov Medical Institute, 1942

СИДОРОВА, Ye. V.

Sidorova, Ye. V. "Biochemical changes in the blood in freezing", Trudy Kuybyshevsk. gos. med. in-ta, Vol. II, 1948, p. 59-66.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 9, 1949)

SIDOROVA, Ye.V.

Sidorova, Ye.V. "Cardio-vascular changes in freezing", Trudy Kuybyshevsk. gos. med. in-ta, Vol. II, 1948, p. 67-70.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 9, 1949)



SIDOROVA, Ye.V.

Sidorova, Ye.V. "The clinical treatment of malarial arthritis", Trudy Kuybyshevsk. gos. med. in-ta, Vol. II, 1948, p. 157-62.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 9, 1949)

SIDOROVA, Ye.V.

Sidorova, Ye,V. "On malarial encephalitis", Trudy Kuybyshevsk. gos. med. in-ta, Vol. II, 1948, p. 163-69.

SO: U-3042, 11 March 53, (Letopis 'nykh Statey, No. 9, 1949)

SIDOROVA, Ye.V.; YEROSHEVSKIY, T.I., professor, direktor.

Clinical aspect and pathogenic therapy of bronchial asthma. Terap.arkh. 25  
no.3:63-67 My-Je '53. (MIRA 6:9)

1. Kafedra diagnostiki, chastnoy patologii i terapii vnutrennikh bolezney  
Kuybyshevskogo meditsinskogo instituta. (Asthma)

SIDOROVA, Ye.V. (Kuybyshev); YEROSHEVSKIY, T.I., professor, direktor.

~~Result of sleep therapy of peptic ulcer.~~ Klin.med. 31 no.9:89 S '53.  
(MLRA 6:11)

1. Klinika diagnostiki, chastnoy patologii i terapii vnutrennikh bolezney  
Kuybyshevskogo meditsinskogo instituta. (Ulcers) (Sleep)

~~SIDOROVA, Ye.V., dots. (Kuybyshev)~~

First conference of therapists of the Volga region. Terap.arkh.  
30 no.1:90-93 Ja '58. (MIRA 11:3)  
(MEDICINE--CONGRESS)

SIDOROVA, Ye. V.

Effect of vitamin B6 deficiency produced with isoniazid on the synthesis of urea from certain L- and D-amino acids in the mouse organism. Vop. med. khim. 6 no. 6:590-597 N-D '60. (MIRA 14:4)

1. Laboratory of Nitrogenous Metabolism, Institute of Biological and Medical Chemistry, Academy of Medical Sciences, of the U.S.S.R., Moscow.

(ISONICOTINIC ACID—TOXICOLOGY) (DEFICIENCY DISEASES)  
(UREA) (AMINO ACIDS)

SIDOROVA, Ye. V.

Cand Biol Sci - (diss) "Effect of life-period inhibition of aminoferase on the formation of urea in organism of mammals." Moscow, 1961. 17 pp; (Academy of Medical Sciences USSR); 250 copies; price not given; (KL, 10-61 sup, 211)

CHERNICH, A. G., SIEGROVA, Ye. V.

Studies on inhibition of biosynthesis of antibodies. Biokhimiia 29  
no.3:556-565 My-Je '64. (MIRA 18:4)

1. Laboratoriya khimii biosinteza antitel Instituta epidemiologii i  
mikrobiologii imeni Gamalei AMN SSSR, Moskva.



GURVICH, A.Ye.; SIDOROVA, Ye.V.; SYUY FEN' [Hsu Fen]; TUMANOVA, A.Ye.

Presence in mitochondria of a factor inhibiting synthesis of antibodies and other proteins of the cell. Biokhimiia 30 no.2:429-437 Mr-Apr '65.

1, Laboratoriya khimii biosinteza antitel otdela obshchey immunologii i onkologii Instituta epidemiologii i mikrobiologii imeni Gamalei AMN SSSR, Moskva.

CHRYSTAL, A.Ye.; ALIKOVA, Ye.Y.; TUMANOVA, A.Ye.; SYUY FEN'

Refined ... of various cell surface granules and lipids isolated from  
from on the synthesis of antibodies and other proteins. Bikhiniia  
30 no.5:1044-1050 1980. (MIRA 18:10)

1. laboratoriya fiziki i khimii dlya izucheniya obshchey immunologii  
i onkologii i fiziologii i mikrobiologii i vent N.F.  
Gosstat AN SSSR, Moscow.

SIDOROVA, Ye.V.

Some remarks on the nature of "nonspecific"  $\gamma$ -globulins.  
Vop. med. khim. 11 no.6:89-92 N-D '65. (MIRA 18:12)

1. Laboratoriya khimii biosinteza antitel Instituta epidemiologii  
i mikrobiologii imeni N.F. Gamalei, Moskva. Submitted May 28, 1965.

**Sovol** A new, nonflammable insulating liquid  
K. A. Andrianov and B. B. Bikhayeva. *Izvestiya Akad. Nauk SSSR, Khim. Zashch. Elektrokh. Inst.* 1938, No. 33, 5-100; *Chem. Zashch. Elektrokh. Inst.* 1941, 1, 415-16; cf. C. I. 34, 10000. Two new catalysts were developed for the pyrolysis of benzene, which bring about the conversion of up to 10% of the benzene into biphenyl in plant-scale operations at 800° and atm. pressure. Fe was used as catalyst in the chlorination of biphenyl. The chlorination products contg. 0-43 mol biphenyl. Cl showed a tendency to crystallize. Products contg. 50-67% Cl were glass-clear resins, while those with 43-56% Cl were liquids which did not crystallize. In order to study the influence of catalysts on the properties of the Sovol, 97% biphenyl having a d. of 1.007, m. 68-71°, b. 248-50°, was chlorinated in the presence of the following catalysts with a temp. of 100° and a catalyst concn. of 0.1%: 1, SbCl<sub>5</sub>, FeCl<sub>3</sub>, and Fe. The conversion into pentachlorobiphenyl required 16 hrs. with Fe, 27 hrs. with SbCl<sub>5</sub>, and 36 hrs. with FeCl<sub>3</sub>. The chlorinated products were most satisfactorily purified with a special alumina. Up to 70% the viscosity of the Sovol was greater than that of transformer oil or of American Pyranol. The range of increase slightly only above 80°. With Sovol E the values for this quantity were the same as those of Pyranol; the values were lower for Sovol A. The values for  $\eta$  were the lowest for Sovol B. (The A and B refer to the catalyst used for pyrolysis.) The behavior of Sovol was practically the same as that of transformer oil toward atm. moisture and in the formation of emulsions with water. In contrast to oils, the presence of water increased the value of the tangential  $\lambda$  of Sovol. Because of the high d. of the Sovol, A18-11.4 METALLURGICAL LITERATURE CLASSIFICATION

the water was dispersed on the surface and soon evaporated while it sank to the bottom of the lighter oil. Thermal aging for 100 days at 150° changed Sovol only slightly, the acid no. was increased from 0.001 to 0.004 mg. and the sapon. no. was increased from 0.003 to 0.008. Sovol had less effect than transformer oil on metals and fibrous materials, even when heated for long periods. The relation between temp. and breakdown resistance of both liquids was sharply influenced by the presence of gases, the effect being of the same nature in both cases. The breakdown strength of thin films (0.5-0.75 mm.) showed

normal values. The addn. of Sovol to transformer oil in ams. up to 40% produced no undesirable effects, while the addn. of only a few % of oil to Sovol lowered the resistance about 40%. Cable or condenser papers impregnated with transformer oil or with Sovol behaved the same. The specific resistance of Sovol decreased more rapidly with temp. than that of transformer oil. Because of its high viscosity at low temps. and its relatively high f. p., Sovol is not suitable for use alone in transformers. Eutectic mixts. with products of the chlorination of benzene, e. g., trichlorobenzene, are suitable. A mixt. of 4 mol. Sovol (87.78%) and 1 mol. trichlorobenzene (12.21%) has the same viscosity as transformer oil and is entirely satisfactory for use in transformers. The usefulness of Sovol is not restricted to the construction of transformers and condensers, as it is useful as a softening agent for cellulose lacquers, the inflammability of which it sharply reduces.

M. G. Moore

TEYTEL'BAUM, B.Ya.; SIDOROVA, Ye.Ye.; GANELINA, S.G.

Study of the surface layer in liquid systems. Part 4. Surface stratification and foam formation in certain binary systems of organic liquids. Izv.Kazan. Fil. AN SSSR Ser.khim.nauk. no.1:115-124 '50. (MLRA 10:5)

(Surface tension) (Foam) (Systems (Chemistry))

SIDOROVA, Ye.Ye.

~~Interactions~~ between amines. Izv. Kazan. fil. AN SSSR Ser. khim. nauk  
no. 1:125-134 '50. (MLRA 10:5)  
(Amines) (Aniline) (Quinoline)

SIDOROVA, YE. YE.

USSR/Chemistry - Solvents

Aug 51

"Determination of the Surface Tension of Aqueous Solutions of Lower Alcohols at Various Temperatures," B. Ya. Teytel'baum, T. A. Gortalov, Ye. Ye. Sidorova, Chem Inst imeni A. Ye. Atbuzov, Kazan' Affiliate Acad Sci USSR

"Zhur Fiz Khim" Vol XXV, No 8, pp 911-919

PA 190T17

SIDOROVA, E. E.

CATALYST

Chemical Abst.  
Vol. 48 No. 9  
May 10, 1954  
General and Physical Chemistry

The surface layer of liquid systems. V. Formation of some ternary systems formed by organic liquids. E. Ya. Teltelbaum and S. G. Ostrova. *Colloid J. (U.S.S.R.)* 16, 208-8 (1952) (Engl. transl.).—See C.A. 46, 9380c. VI. The stability of elemental foam. E. Ya. Teltelbaum and E. E. Sidorova. *Ibid.* 401-5.—See C.A. 47, 1460i.

H. L. H.

5  
②

Chem

9-2-54  
H.L.H.



1. TEYTEL'BAUM, B. YA., SIDOROVA, YE. YE.

2. USSR (600)

4. Foam

7. Investigation of the surface layer of liquid systems. Part 6. Stability of elementary foam. Koll. zhur. 14, no. 5, 1952.

9. Monthly List of Russian Accessions. Library of Congress, January, 1953. Unclassified.

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 354

Author: Berg, L. G., and Sidorova, Ye. Ye.

Institution: None

Title: None

Original

Periodical: Tr. 1-go soveshchaniya po termografii. Kazan, 1953, Moscow-Leningrad, Izd-vo AN SSSR, 1955, 101-107

Abstract: A short survey of existing methods for the determination of the pressure of saturated vapors (P) is given. A thermographic method for the determination of P of liquids is proposed; the method is a modification of the isobaric method for determining P. The method consists in the recording by means of a pyrometer of the boiling temperature of the samples under investigation. Equipment is described for the determination of P of individual liquids, binary mixtures, and aqueous salt solutions. Overheating was eliminated by the introduction of

Card 1/2

USSR/Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium. Physico-chemical Analysis. Phase Transitions, B-8

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 354

Abstract: 1-2 ml of granulated Ag into the reaction vessel. The results of experiments carried out with a number of substances show good agreement with the literature values. Thermographic recordings have been made of a number of binary mixtures by bringing them to the boiling point. The thermographic traces obtained at different pressures could be useful in the determination of the conditions which will assure optimum distillation of the mixture. The method described is not applicable to the determination of low (<10 mm Hg) pressures due to the increasing tendency of the liquid to overheat.

Card 2/2

BERG, L.G.; SIDOROVA, Ye.Ye.

Use of the thermographic method in the determination of molecular  
weights; report No.1. Izv.Kazan.fil. AN SSSR. Ser.khim.nauk no.6:  
222-226 '61. (MIRA 16:5)  
(Thermal analysis) (Molecular weights)

SIDOROVA, Ye.Ye.

Third All-Union Conference on thermography. Zhur. neorg. khim.  
8 no.6:1546-1548 Je '63. (MIRA 16:6)

(Thermal analysis—Congresses)

BERG, L.G.; SIDOROVA, Ye.Ye.; VLASOV, V.V.; SOZIN, Yu.I.;  
AVVAKUMOVA, K.N.

Cadmium nitrate tetrahydrate and the products of its dehy-  
dration. Zhur. neorg. khim. 9 no.3:538-546 Mr '64.  
(MIRA 17:3)

1. Khimicheskiy institut AN SSSR i Kazanskiy filial AN SSSR.

SIDOROVA, Ye.Ye.; BAYTERYAZOVA, L.Kh.

Differential method of measuring freezing depressions from  
melting curves of diluted solutions. Zhur.fiz.khim. 39  
no.11:2842-2846 N '65 (MIRA 18:12)

1. Kazanskiy khimicheskiy institut imeni A.Ye.Arbutova AN  
SSSR.

SIDOROVA, Yu.

Consolidating our achievements. Vest.prom.i khud.promys. 2 no.7:  
23.01. '61. (MIRA 15:1)

1. Nachal'nik Upravleniya promyshlennosti prodovol'stvennykh tovarov  
Tyumenskoy oblasti, g. Tyumen'.  
(Tyumen'--Food industry)



ZEVAKIN, L.V.; SIDOROVA, Yu.P., red.; AKSENOVA, I.I., red.; KNAKNIN, M.T.,  
tekhn.red.

[Analysis of loom mechanisms preventing fabric weft defects]  
Analiz mekhanizmov tkat'ikogo stanka, preduprezhdayushchikh poroki  
tkani po utku. Pod red. I.U.P.Sidorova. Moskva, Gos.nauchno-tekhn.  
izd-vo lit-ry po legkoi promyshl., 1959. 78 p. (MIRA 13:9)  
(Looms)

SIDOROVA-PARAMONOVA, N. P., ~~AND~~ BIO SCI, "SARMATIAN  
MACTRIDAE OF MANGISHLAK AND USTYURT ~~{PLATEAU}~~, THEIR  
SYSTEMATIC POSITION, PHILOGENY, AND STRATIGRAPHIC SIG-  
NIFICANCE." MOSCOW, 1960. (ACAD SCI USSR, PALEONTOLOGICAL  
INST). 3-61, 211).

DANILOV, S.N.; SIDOROVA-TIKHOMIROVA, N.S.; KULAKOVA, O.M.

Emulsion xanthogenation. Zhur. prikl. khim. v. 31 no.5:765-771  
My '58. (MIRA 11:6)

(Emulsions) (Xanthic acid)

ACCESSION NO: AP3006764

S/0190/63/005/009/1393/1397

AUTHORS: Fomenko, B. A.; Volodin, V. P.; Sidorovich, A. F.; Kuvshinskiy, Ye. V.

TITLE: Thermomechanical investigations of polyisobutylene by means of dilation and penetration

SOURCE: Vy\*sokomolekulyarny\*ye soyedineniya, v. 5, no. 9, 1963, 1393-1397

TOPIC TAGS: polymer, thermal oxidation, single axis elongation, polyisobutylene, amorphous polymer, thermomechanics

ABSTRACT: The low-molecular-weight polymer was prepared by means of thermal oxidation decomposition of the high-molecular-weight product, heating the latter in air at 160-170C for 50 hours. The characteristic molecular weights  $M_{w1}$  and  $M_{w2}$  were  $0.55 \times 10^6$  and  $1.86 \times 10^6$  respectively. The method of investigation consisted of single-axis elongation of a film strip under a constant force, and penetration by a 3-mm cylindrical indenter under a gradual temperature rise. The results show behavior of polyisobutylene analogous to other linear polymers. As in other amorphous polymer deformations, a sharp branch in the thermomechanical curve of polyisobutylene shows a superelastic behavior. Orig. art. has: 4 figures.

Card 1/2

ACCESSION NO: AP3006764

ASSOCIATION: Institut vy\*sokomolekulyarny\*kh soyedineniy AN SSSR (Institute of  
High-Molecular-Weight Compounds AN SSSR)

SUBMITTED: 07/11/62

DATE ACQ: 30Sep63

ENCL: 00

SUB CODE: CH

NO REF SOV: 008

OTHER: 000

Card 2/2

5/073/62/028/005/005/005  
I003/I203

AUTHORS: Morekhin, M.G., Yakovlev, V.S. and Sidorovich, A.G.

TITLE: The production of nitrogen from air by the catalytic oxidation of ammonia with vanadium pentoxide as a catalyst

PERIODICAL: Ukrainskiy khimicheskii zhurnal, v.12, no. 5, 1962, 645-648

TEXT: The current method for the production of nitrogen is considered to be too cumbersome. A description is given of a catalytic process wherein the reactions may be summed up by the equation:  $4\text{NH}_3 + 3\text{O}_2 = 2\text{N}_2 + 6\text{H}_2\text{O}$ . The reacting gas should consist of 21.8% of  $\text{NH}_3$  and 78.2% of air. The temperature should be  $600^\circ\text{C}$  and the velocity of the gas current  $\text{lm}^3/\text{hour}$ . The vanadium pentoxide catalyst becomes partially reduced during the process, which does not, however, prevent it from being reused many times over. There are 1 figure and 1 table.

SUBMITTED: May 15, 1961

Card 1/1

S/032/63/029/002/028/028  
B101/B186

AUTHORS: Yakovlev, V. S., and Sidorovich, A. G.

TITLE: Analyzer for quantitatively determining the composition of air-ammonia mixtures

PERIODICAL: Zavodskaya laboratoriya, v. 29, no. 2, 1963, 244 - 245

TEXT: A gas analyzer is suggested in which the absorption burette 6 (Fig.) is provided with a ml or % scale. The amount of  $\text{NH}_3$  absorbed is determined from the difference between the initial 100 ml volume of burette 1 and the volume remaining in burette 6 after the absorption of  $\text{NH}_3$  in  $\text{H}_2\text{SO}_4$ .  $\text{H}_2\text{SO}_4$  has been drawn into burette 6 by means of a rubber ball 9. The accuracy is 0.10%. Unlike in the Oreat apparatus it is not necessary to conduct the gas from the absorption burette back into burette 1 to avoid errors from the absorption of  $\text{NH}_3$  by traces of liquid. There is 1 figure.

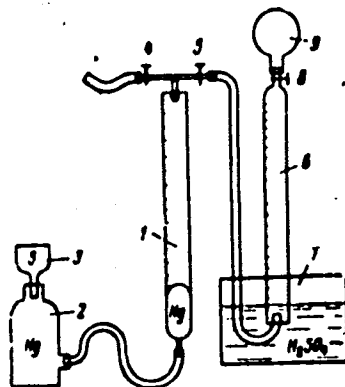
ASSOCIATION: Kiyevskoye vyssheye inzhenerno-aviatsionnoye voyennoye uchilishche (Kiyev Military Aircraft Engineering School of Higher Education)

Card 1/2

Analyzer for quantitatively...

S/032/63/029/002/028/028  
B101/B186

Fig. Analyzer for determining quantitatively the composition of air - ammonia mixtures



Card 2/2



MOREKHIN, M.G.; SIDOROVICH, A.G.; MAKHMET'YEVA, N.D.

Gas corrosion of nickel alloys, its nature and methods of control.  
Ukr.khim.zhur. 29 no.12:1321-1325 '63. (MIRA 17:2)

SIDOROVICH, A.P., inzhener.

Standard suspension formwork. Transp. stroi. 5 no.9:29 N '55.  
(Bridges--Foundations and piers) (MLRA 9:2)

BYKOV, S.Ya., inzh.; SIDOROVICH, A.P., inzh.; TRUSH, V.I., inzh.

Bridge supports on shell tubings. Transp.stroi. 10 no.3:  
24-28 Mr '60. (MIRA 13:6)

(Bridges--Foundations and piers)

Sidorovich, A.V.

17083  
Branched polymers obtained in the reaction between natural rubber and azodicarboxylates. S. S. Ivanov, N. A. Vuzelovich, A. V. Sidorovich, and E. F. Pedozova (Inst. High-Polymer Compounds, Acad. Sci. U.S.S.R., Leningrad). *Kolloid. Zhur.* 18, 231-232 (1956).—Smoked sheet (I) was vulcanized with  $x$  g.-equiv. diethylenebis(ethyl azodicarboxylate) (II) (vulcanizate A), with  $x$  g.-equiv. II and 0.1 g.-equiv.  $[-NCO_2Et]_3$  (III) (vulcanizate B), and with 0.1 g.-equiv.  $[-NCO_2Et]_3$  (vulcanizate C). Tensile strength  $P$  (kg. wt./sq. cm.) of A was 7, 114 (max.), and 25 for  $x = 0.001, 0.04$ , and  $0.07$ , resp., while the corresponding total elongation  $l$  was almost independent of  $x$  (equal to about 1000%) until  $x = 0.06$ ; thus, II acted on  $l$  as a crosslinking agent. The  $P$  of B was smaller; e.g., at  $x = 0.04$ ,  $P$  was 33 and at  $x = 0.1$ ,  $P = 17$ , and  $l$  decreased from 1400% at  $x = 0.01$  to 300% at  $x = 0.1$ . Hence branching caused by III counteracted the effect of II. C had a higher  $P$  than either A or B, but its  $l$  was about 800%. The dynamic modulus of elasticity  $E$  increased with  $x$  in a manner almost independent of the presence of III, but the decay  $\alpha$  of oscillations was independent of  $x$  and small in A, and large, with a max. at  $x = 0.04$ , in B. The  $E$  of C was equal to that of A, but  $\alpha$  was much smaller. On increasing the temp. from  $20^\circ$  to  $100^\circ$ ,  $E$  and  $\alpha$  did not change in C, decreased (e.g., to 0.25) in A, and greatly decreased (e.g., to 0.125) in B. The difference between the above results and those of Flory, *et al.* (C.A. 43, 87205i) may be due to the different methods for making the films. The effect of III on viscosity of I solns. in C.H. was also not identical with that found by F. Also in *Kolloid. J.* U.S.S.R. 18, 275-8 (1956) (Engl. translation). J. J. B.

AUTHORS: Sidorovich, A. V., Kuvshinskiy, Ye. V. SOV/57-58-8-25/37

TITLE: Determination of Dynamic Mechanical Characteristics of Materials by the Excitation of Bending Vibrations in a Thin Plate Restrained at One End (Opredeleniye dinamicheskikh mekhanicheskikh kharakteristik materialov metodom vozbuzhdeniya kolebaniy izgiba v tonkoy plastine, zazhatoy odnim kontsom)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Nr 8, pp 1759 - 1767 (USSR)

ABSTRACT: In this paper a theory of the determination of dynamic mechanical characteristics of materials from vibration tests with a thin plate restrained at one end is developed. Existing theories are based upon the assumption that the tangent of the loss angle is small and that the dynamical modulus and the loss angle vary with frequency as in a Kelvin (Kel'vin)-Foykht body (Refs 1 and 2). Since materials were to be investigated which exhibit a great loss angle and the dynamical characteristics of which gradually vary with the frequency, a theory had to be developed neglecting the frequency dependence of these properties within the limits of the half width of the resonance curve. Equations describing the resonance curves

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Determination of Dynamic Mechanical Characteristics of Materials by the Excitation of Bending Vibrations in a Thin Plate Restrained at One End S07/57-58-8-25/37

of materials with a loss angle as high as  $\text{tg}\delta = 1$  were deduced. The functional relations of this quantity with the half-width of the resonance curve and with the ratio of resonance amplitudes  $\left| \frac{Y_0}{Y_1} \right|$  were determined.

In order to specify the limits of applicability of the formulae deduced the errors in the determination of the loss angle and of the dynamic modulus of two models were analyzed. These models are the Kelvin -Foykht and the Maxwell (Maksvell) body which represent diametrically opposite cases of a pronounced variation of the properties with the frequency. Since all formulae were deduced under the assumption that  $\text{tg}\delta$  and the absolute value of the dynamic modulus  $|E_d|$  is independent of the frequency it was desired to know the conditions which actually permit to neglect the frequency dependence. This is the case within a variation of

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Determination of Dynamic Mechanical Characteristics of Materials by the Excitation of Bending Vibrations in a Thin Plate Restrained at One End SOV/57-58-8-25/37

$\text{tg } \delta \leq 0,6$  whereas outside of this limit this is justifiable only after a critical analysis of the frequency dependence. The maximum error encountered in a Maxwell body at  $\text{tg } \delta = 0,6$  is 9,3%. A method for the linearization of the resonance curves is presented. From the analysis of the errors it can be concluded that this method seems acceptable for the linearization of the two models in question at least for values of  $\text{tg } \delta$  not exceeding 0,6. There are 4 figures, 3 tables, and 2 references, 0 of which is Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soedineniy AN SSSR Leningrad  
(Institute of High-Molecular Compounds, AS USSR, Leningrad)

SUBMITTED: August 2, 1957

Card 3/4

28(5)

SOV/32-25-9-37/53

AUTHORS: Sidorovich, A. V., Kuvshinskiy, Ye. V.

TITLE: Device for the Determination of the Heat Dilatation of Films and Threads

PERIODICAL: Zavodskaya laboratoriya, 1959, Vol 25, Nr 9, pp 1124-1126 (USSR)

ABSTRACT: In investigations concerning the hardening of polymers (P) it is most appropriate to test the linear dilatation of thin (P)-films. Through high-vacuum treatment at increased temperatures low molecular matter and particularly moisture can be practically entirely removed from such samples. An orientation of the macro-molecules in the film, which ensues during the production of the film and becomes visible on heating in form of shrinkage and deformation, can be removed through prior heating of the sample in high vacuum to 40-50° over the glazing temperature. An apparatus was constructed which allows quantitative linear dilatometric analysis in the vacuum ( $10^{-2}$  -  $10^{-5}$  mm Hg) under dynamically strictly controlled time and temperature conditions (20-250°). The samples can be cooled or heated with homogeneous speed in a range of 0.5°/h to 2°/h, or can be kept at constant temperature with

Card 1/3



SOV/32-25-9-37/53

Device for the Determination of the Heat Dilatation of Films and Threads

an accuracy of  $\pm 0.2^\circ$  for several days. At the same time as the dilatometric measurements the sample can be weighed. The apparatus (Fig 1) essentially consists of two glass cylinders. In the upper cylinder there is a quartz spiral balance to which the sample is fastened with a quartz thread, so that it hangs in the lower cylinder. To the lower end of the sample another quartz thread is glued (with the adhesive BF-2), so that its lower free end hangs into a tapering part of the lower cylinder, which is fused together. The lower end of the quartz spiral, as well as the free end of the quartz thread hanging from the sample are examined with one cathetometer MIR-1 (with ocular micrometer AN9-2) each. The lower cylinder is situated in an electrical oven. The two glass cylinders can be evacuated. An installation is used for thermal control (Fig 2), containing among other things an automatic transformer LATR-2, millivoltmeter MRShchPr-54, two resistors of the sliding contact rheostat RSP, as well as a sound frequency generator 3G-10. Measurement of the heat elongation of thin quartz threads showed that with frequent heating and cooling very little elongation resulted. Tests concerning the hardening- and softening process of atactic polystyrene through radical

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SOV/32-25-9-37/53

Device for the Determination of the Heat Dilatation of Films and Threads

polymerization showed (Fig 3) that only in the range over 110° the state of polystyrene is clearly determined by temperature. With lower temperatures the length of the sample is dependent on prior thermal treatment. There are 3 figures.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR  
(Institute for High Molecular Compounds of the Academy of Sciences, USSR)

Card 3/3

5.3830, 5.4100

75336

SOV/57-29-10-13/18

AUTHORS: Sidorovich, A. V., and Kuvshinskiy, Ye. V.

TITLE: Anisotropy of Thermal Expansion of Polytetrafluoroethylene Unidirectionally Rolled

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1959, Vol 29, Nr 10, pp 1271-1272 (USSR)

ABSTRACT: Polytetrafluoroethylene  $(-\text{CF}_2-\text{CF}_2-)_n$  rolled into thin films in either longitudinal or transverse direction, is subjected to heating and cooling, and its anisotropy studied through measurements of its thermal coefficient of linear expansion and observation of phase transition. Sample films were heated from  $20^\circ\text{C}$  to  $120^\circ\text{C}$ , cooled to  $-22.5^\circ\text{C}$ , and then heated again to  $20^\circ\text{C}$ . The temperature changes were made at the rate of  $1.5^\circ\text{C}/\text{min}$ . It has been observed that the heating and cooling curves show a high degree of hysteresis. The thermal coefficient of linear expansion in the longitudinal direction of rolling is only about half that obtained

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Anisotropy of Thermal Expansion of  
Polytetrafluoroethylene Unidirectionally  
Rolled

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in films rolled in the transverse direction. Thermal anisotropy is observed at temperatures of 20° to 25° C only in films rolled in the transverse direction, whether these are heated or cooled. The observed thermal anisotropy of polytetrafluoroethylene films unidirectionally rolled is considered to be very pronounced. There is 1 figure; and 5 references, 3 U.S., 2 U.K.: Rigby, H. A., Bunn, C. W., Nature, Nr 4170, 583, 1949; Furukawa, G. T., McCockey, R. E., King, G. I., J. Res. Nat. Bur. St., 49, Nr 4, R. P. 2364, 1952; Quinn, F. A., Roberts, D. E., Work, R. N., J. Appl. Phys., 22, 1085, 1951; Kirby, R. K., J. Res. Nat. Bur. St. 57, 2, R. P. 2696, 1956; Bunn, C. W., Howells, E. R., Nature, Nr 4429, 549, 1954.

ASSOCIATION: Institute of High-Molecular Compounds, Academy of Sciences, SSSR (Institut vysokomolekulyarnykh soyedineniy, AN, SSSR)

SUBMITTED: April 18, 1959

Card 2/2

17.4312

15.8560 also 2209

83824

S/190/60/002/005/014/015

B004/B067

AUTHORS: Sidorovich, A. V., Kuvshinskiy, Ye. V.

TITLE: Thermomechanical Study of Amorphous and Crystalline Polymers

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 5,  
pp. 778-784

TEXT: The authors of the present paper intended to find out whether new plastics can be classified among the known plastics by investigating them thermomechanically. They used an apparatus described in Refs. 4, 5. 50 mm long, 2 - 4 mm wide, and 0.05 - 0.5 mm thick polymer strips were studied by uniaxial, uniform stretching under a load of 20 - 100 kg/cm<sup>2</sup>, with linear temperature rise in the range from -150 to 250°C and a velocity of 0.4 to 100°C/h. From among the amorphous polymers, polystyrene, polyethyleneterephthalate, and the styrene rubber copolymer, of the type CKC-80 (SKS-80) were studied (Figs. 1, 2). From among crystalline polymers, isotactic polypropylene, polyethylene, polytetrafluoroethylene and polyethyleneterephthalate (which was caused by heating to pass over into the crystalline state) were investigated (Figs. 5-7). Deformation

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Thermomechanical Study of Amorphous and  
Crystalline Polymers

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S/190/60/002/005/014/015  
B004/B067

in amorphous polymers depends to a higher degree on stretching than in crystalline polymers. As is shown in Fig. 1, stretched polystyrene resumes its original length as soon as the stretching ceases. The influence exercised by stretching and the rate of heating on the softening temperature is low. In the case of crystalline polymers, however, the thermomechanical curve is more complicated and cannot be characterized by the softening temperature alone. Three sections may be distinguished, namely, the region below vitrification, the region of cold flow, and the region of melting. For these polymers the following can be determined by thermomechanical investigation: softening temperature of the amorphous part, melting temperature of the crystalline part, and the temperature of cold flow. On the basis of thermomechanical curves, the thermostabilities of polymers of the same type may be compared (Fig. 8). These curves vary more strongly under the influence of experimental conditions than in the case of amorphous polymers. There are 8 figures and 8 references: 5 Soviet, 2 British, and 1 French.

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-molecular Compounds of the AS USSR)

SUBMITTED: February 4, 1960

Card 2/2

15 (8), 28 (5)

AUTHORS:

Kuvshinskiy, Ye. V., Bessonov, M. I.,  
Zakharov, S. K., Sidorovich, A. V.

S/032/60/026/01/003/052

B010/B123

TITLE:

Answers to the Inquiry About the Test Methods of the Physical  
and Mechanical Properties of Plastics

I

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 7 -28 (USSR)

ABSTRACT:

The test method and the dynstat type apparatus (Ref 1) may be recommended for the evaluation of the brittleness of plastics. In the institute of the authors successful tests on micro-samples were carried out (Ref 2), which can be further recommended. For determining the connection of the structure of plastics and their physical and mechanical properties, two facts have to be considered: If the influence of the structure upon a certain property is to be evaluated, the characteristics of only this property may be determined. If, however, differences of two (or more) plastics are to be investigated, the thermomechanical properties must be investigated within a wide temperature range and with varying stress. Tensile strength during expansion (and bending) is only to be

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Answers to the Inquiry About the Test Methods of the Physical and Mechanical Properties of Plastics I S/032/60/026/01/003/052 B010/B123

determined at a single standard deformation rate (but not load rate) which can be easily reproduced. At the same time the durability and creep is to be determined of plastics. For determining the heat resistance of plastic the upper limit of temperature of usability of finished products should be fixed and not of the plastic itself, as it depends on the purpose of usability of the finished product. Therefore, the determination technique cannot be universal. The existing apparatus for determining the heat resistance of plastic (Martens, Vick) are technically imperfect and must be substituted by new and modern constructions. The indirect evaluation method of the density determination can be regarded as simple and universal method of determining the degree of crystallization. There are 6 references, 5 of which are Soviet.

ASSOCIATION: Institut vysokomolekulyarnykh soedineniy AN SSSR  
(Institute of High Molecular Compounds of the AS USSR)

Card 2/2



28 (4)

AUTHORS:

Sidorovich, A. V., Kuvshinskiy, Ye. V.

S/032/60/026/01/033/052  
B010/B006

TITLE:

Apparatus for Thermomechanical Investigation of Polymers<sup>1</sup> by  
the Method of Monoaxial Elongation

PERIODICAL:

Zavodskaya laboratoriya, 1960, Vol 26, Nr 1, pp 100 - 102 (USSR)

ABSTRACT:

An apparatus (Fig 1) was designed for testing thin uniformly heated plastic samples under uniform stress (at monoaxial elongation). A temperature range of  $-150$  to  $+270^{\circ}$  at heating- and cooling rates of  $2$  to  $60^{\circ}\text{C/hr}$ , loads of  $20$  g to  $3$  kg, and sample elongations of  $0-50$  mm can be applied in the test. Sample strips having a test length of  $50$  mm, a width of  $2-5$  mm and a thickness of  $0.05 - 0.5$  mm are tested. The apparatus contains a device for uniform sample elongation by means of an electric deformation primary element, a thermostating unit, to control heating and cooling rates, and a unit for recording sample deformation and temperature. At the one end, the sample is clamped to a fixed holder, and at the other to a holder attached to a wire rope. The horizontal wire is guided over a pulley, the pan with the weights being attached to the depending end. The pulley has a scale, and is axially firmly attached to a disk. The latter is

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Apparatus for Thermomechanical Investigation of  
Polymers by the Method of Monoaxial Elongation

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B010/B006

adjusted as rheochord primary element of sample deformation. The sample itself is placed in a horizontal cylindrical chamber which can be heated by a heating element or cooled by liquid nitrogen. The heating element is fed by an autotransformer of the type LATR-1 and the nitrogen is circulated by a UMT pump. Commutation of the current in the heating element and switching-on of the pump are effected by means of an electronic EPV-01<sup>28</sup> potentiometer. Furthermore, an RSP<sub>2</sub> rheostat, SD-2<sup>18</sup> electric motor, KVT-6<sup>23</sup> potentiometer, VS-12<sup>2</sup> rectifier, PP potentiometer, and an M-494<sup>23</sup> microammeter are used. The circuit scheme applied to record sample deformation and temperature is illustrated (Fig 2). Thermomechanical curves for crystalline polyethylene terephthalate obtained by means of the apparatus described above by applying various loads and a temperature increase of 0.9°C/min are given (Fig 3). There are 3 figures. (✓)

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy Akademii nauk SSSR  
(Institute of High-molecular Compounds of the Academy of  
Sciences, USSR)

Card 2/2

SIDOROVICH, A.V.; KUVSHINSKIY, Ye.V.

Characteristics of the thermal expansion of polyethylene terephthalate.  
Vysokom. soed. 3 no. 2:161-163 F '61. (MIRA 14:5)

1. Institut 'vysokomolekulyarnykh soyedineniy AN SSSR.  
(Terephthalic acid)

297h0  
S/190/61/003/011/011/016  
B110/B101

15 8510

AUTHORS: Sidorovich, A. V., Kuvshinsky, Ye. V.

TITLE: Thermomechanical properties of linear amorphous polymers  
polymethyl methacrylate, polystyrene

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 3, no. 11, '96', 1696  
1704

TEXT: The authors investigated amorphous polymers under low stresses ( $> 0.05 \text{ kg/cm}^2$ ). They tested atactic polymethyl methacrylate (I) ( $[\eta] = 5.6$  in benzene) and polystyrene (II) ( $[\eta] = 3.4$  in benzene) films obtained by evaporation of solutions of bulk polymers of different molecular weights, as well as I obtained by fractional precipitation. Freely suspended films were dried at  $\leq 10^{-4}$  mm Hg. the temperature was raised every 2 - 3 hr by 15 - 20°C and kept constant at 40 - 50°C above the vitrification temperature for 50 - 60 hr. Since the films were also soluble after the thermomechanical tests, no structuration took place. Films 30 mm long, 2 - 4 mm wide, and 0.05 - 0.2 mm thick were examined at  $\theta = 20 - 200^\circ\text{C}$  ( $d\theta/dt = 60^\circ\text{C/hr}$ ) by means of a constant stress. At

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B10/B101

# Thermomechanical properties...

$\sigma_0 = 0 \text{ kg/cm}^2$ , a glass thread with hooks for weights was attached to the film by means of BF-2 (BF-2) glue. At  $\Delta l/l_0 \leq 30\%$ , the test of I in a wide temperature range is only possible under low stresses. At  $\sigma_0 = 100 \text{ kg/cm}^2$  the curves  $\partial \sigma / \partial t = 60^\circ \text{C/hr}$  consist of a sloping and a steep section. The curve is sloping at  $\sigma_0 \leq 1 \text{ kg/cm}^2$ . The softening temperature drops linearly with increasing stress. At  $\sigma_0 \leq 5 \text{ kg/cm}^2$  an S-shaped section is formed, at  $\sigma_0 \leq 2.0 \text{ kg/cm}^2$  the following sections exist: (1) a low-temperature section with slight deformation; (2) a section with steep deformation increase due to transition to the highly elastic state; (3) a comparatively sloping (plateau) section; and (4) a steep high-temperature section. There are similar conditions for II but II is more deformable. At  $\leq 120^\circ \text{C}$  (I) and  $\leq 100^\circ \text{C}$  (II) and  $\sigma_0 \geq 20 \text{ kg/cm}^2$ , the stress dependence is not linear with deformation. At higher temperatures and  $\sigma_0 \leq 6 \text{ kg/cm}^2$  (I) and  $\sigma_0 \leq 1.5 \text{ kg/cm}^2$  (II) it is linear. The deformability  $D = (1/\sigma)(\Delta l - \Delta l_0)/l_0$  was determined from the thermomechanical curves and referred to  $\sigma$ . The nonlinearity of the stress dependences of deformation affects that the curves of deformation

Thermomechanical properties...

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do not coincide at low temperatures as they do at high temperatures. Samples obtained in narrow fractions were tested to investigate the molecular-weight (MW) and polydispersion dependences of thermomechanical properties. The MW were determined by means of light scattering at the laboratory of V. N. Tsvetkov in the IVS AN SSSR. For  $MW = 1.54 \cdot 10^6$ ;  $3.1 \cdot 10^5$ ;  $5.0 \cdot 10^4$ ; and 0.5 and 2 kg/cm<sup>2</sup>, the following was found: (1) the sections corresponding to the start of softening coincide for all fractions ( $\theta_v \sim 125^\circ\text{C}$ ); (2) only at  $MW = 1.54 \cdot 10^6$ , there is a plateau between 130 and 170°C; (3) there is no essential difference between nonfractionated polymers and their fractions. The results obtained corresponded to those obtained by V. A. Kargin, T. I. Sogolova (Zh. fiz. khimii, 23, 530, 1949). Since after the test cycle: loading - heating - cooling - unloading - heating the initial length was restored, only highly elastic and thermal-expansion deformations exist. Investigations of polystyrene ( $[\eta] = 4.1$  in benzene) with 0.5 and 25 kg/cm<sup>2</sup> at 2 and 60°C/hr heating rate also indicate the absence of flow. The steep rise of the thermomechanical curves is effected by accumulation of highly elastic deformations under ordinary test conditions. The results obtained show that

X

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Thermomechanical properties...

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the convenience of a particular definition of the viscous flow state of linear polymers is questionable. G. L. Slonimskiy (Dokl. AN SSR, 62, 238, 1948) and P. P. Kobeko, Ye. V. Kuvshinskiy, G. K. Gurevich (Izv. AN SSSR ser. fiz., 3, 329, 1937) are mentioned. There are 5 figures and 10 Soviet references. X

ASSOCIATION: Institut vysokomolekulyarnykh soyedineniy AN SSSR (Institute of High-molecular Compounds AS USSR)

SUBMITTED: December 27 1960

Card 4/4

S/181/62/004/012/007/052  
B104/B102

AUTHORS: Kuvshinskiy, Ye. V., and Sidorovich, A. V.

TITLE: Ways to develop a quantitative theory of vitrification

PERIODICAL: Fizika tverdogo tela, v. 4, no. 12, 1962, 3403-3408

TEXT: This is a critical survey on studies since 1936 on the relaxation theory of the vitrification of amorphous bodies. It is shown that the relaxation theory, although well known, gives only qualitative results, and that systematic investigations of vitrification are lacking. To develop the theory further, the following studies are proposed: (1) experimental investigation of rules governing property changes of a substance during heat treatment, compression and elongation; (2) confirmation that when a function of state is established this enables the behavior of a substance under any course of treatment to be predicted; (3) explanation of a kinetic equation on the basis of the general conceptions of molecular relaxation. The equation of state

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S/181/62/004/012/007/052  
B104/B102

Ways to develop a quantitative ...

$$\left(\frac{dU}{dt}\right) = \sum_i \left(\frac{\partial U}{\partial \alpha_i}\right)_{\theta, p, \alpha_j \neq i} A_i + \left(\frac{\partial U}{\partial \theta}\right)_{p, \alpha_i} \left(\frac{d\theta}{dt}\right) + \left(\frac{\partial U}{\partial p}\right)_{\theta, \alpha_i} \frac{dp}{dt} =$$

$$= f_1 + f_2 q + f_3 r \quad (4)$$

$$\left(\frac{\partial f_2}{\partial p}\right)_{\theta, i} = \left(\frac{\partial f_3}{\partial \theta}\right)_{p, i} = \left(\frac{\partial^2 U}{\partial p \partial \theta}\right)_{\alpha_i}$$

is derived for the function of state

$$U = U\left(\alpha_i; \frac{d\alpha_i}{dt}; \theta; p; q, r\right) = U(\alpha_i; \theta; p). \quad (2)$$

where

$$\left(\frac{d\alpha_i}{dt}\right) = A_i(\alpha_j; \alpha_i; \theta; p) = A_i(\alpha_j; \theta; p). \quad (3),$$

$\alpha_i$  = inner parameter of the substance,  $\theta$  = temperature,  $p$  = pressure,  
 $q = d\theta/dt$ ,  $r = dp/dt$ . From (4) it follows that the proposed experiments  
must be of very varied nature, but the experimental conditions can be  
exactly determined if temperature and pressure vary according to a  
previously fixed law.

Card 2/3

FOMENKO, B.A.; VOLODIN, V.P.; SIDOROVICH, A.V.; KUVSHINSKIY, Ye.V.

Thermomechanical investigation of polyisobutylene by stretching and penetration tests. Vysokom.soed. 5 no.9:1393-1397 S '63.

(MIRA 17:1)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

ACCESSION NR: APh019854

S/0181/64/006/003/0888/0895

AUTHORS: Sidorovich, A. V.; Kuvshinskiy, Ye. V.

TITLE: Dilatometric study of the vitrification of polystyrene and polyvinylacetate

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 888-895

TOPIC TAGS: dilatometry, vitrification, polystyrene, polyvinyl, thermal expansion, heat capacity, amorphous material, isothermal annealing

ABSTRACT: This represents the first use of the quantitative dilatometric method to study hardening and softening of amorphous substances. The authors have studied atactic polystyrene and polyvinylacetate under various thermal conditions: a) with even cooling at different rates (from 0.5 to 120 deg/hr), b) with isothermal annealing, c) with heating after annealing and without annealing. The data obtained give for the first time a general picture of changes in the specific volume of an amorphous body during hardening and softening. The patterns discovered were found to be characteristic of different kinds of amorphous material. These patterns are general in relation to calorimetric characteristics, because

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ACCESSION NR: AP4019854

changes in heat content and heat capacity at constant pressure are similar to changes in volume and in coefficient of dynamic thermal expansion. The authors conclude that under conditions of uniform temperature change the behavior of the two investigated materials is determined only by the temperature of the body and by one latent parameter characterizing the nonequilibrium internal structure. Results of this analysis are to be discussed in future reports. Orig. art. has: 3 figures, 1 table, and 2 formulas.

ASSOCIATION: Institut vyssokomolekulyarnykh soyedineniy AN SSSR, Leningrad  
(Institute of High-Molecular Compounds AN SSSR)

SUBMITTED: 14Oct63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: SS

NO REF SOV: 015

OTHER: 021

Card 2/2

SIDOROVICH, A.V.

Use of an EPP-09-type potentiometer in recording weak e.m.f.'s.  
Zav. lab. 31 no.8:1028 '65. (MIRA 18:9)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.

SIDOROVICH, A.V.; BESONOV, M.I.; RUDAKOV, A.P.; KOTON, M.M.

Thermographic and dilatometric study of polypyromellitimide.  
Dokl. AN SSSR 165 no.4:848-850 D '65.

(MIRA 18:12)

1. Institut vysokomolekulyarnykh soyedineniy AN SSSR.
2. Chlen-korrespondent AN SSSR (for Koton).

GONCHAROV, V.I.; SAVENKOV, M.I.; TURCHINOVA, L.N.; Prinimali uchastiye:  
DRIZHERUK, M.Ye.; SILOROVICH, L.A.; KIRICHENKO, T.P.

Dressing granite-sillimanite gneisses from the Bug Valley  
deposit. Ogneupory 30 no.10:10-15 '65. (MIRA 18:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov.

26182  
S/081/61/000/012/005/028  
B105/B202

5 119D  
AUTHORS:

Levina S. A., Yermolenko N. F., Sidorovich M. A.

TITLE:

Effect of the composition and the conditions of formation on the structure and the catalytic properties of the mixed gels of iron, nickel, and cobalt hydroxides

PERIODICAL:

Referativnyy zhurnal. Khimiya, no. 12, 1961, 81, abstract 126549 (Sb. nauchn. rabot. In-t obshch. i neorgan. khimii AS BSSR, 1960, vyp. 1, 140-146)

TEXT: The structure and the catalytic activity of the mixed gels  $\text{Fe}_2\text{O}_3$  and  $\text{Ni}(\text{OH})_2$  as well as of the pure and mixed gels  $\text{Co}(\text{OH})_2$  and  $\text{Fe}(\text{OH})_2$  were studied. It was demonstrated that the mixed hydrates of iron and nickel oxides are finely porous. By an admixture of 6.5% Ni to  $\text{Fe}(\text{OH})_3$  the catalytically most active sample was obtained whose activity was 2.4 times greater than that of  $\text{Fe}(\text{OH})_3$ . Pure  $\text{Co}(\text{OH})_2$  samples are coarse-pored with a low specific surface and low catalytic activity. The order

Card 1/2



GOLUBTSOV, M.O., kand.med.nauk; SIDOROVICH, M.K., ordinator

Treatment of lumbosacral radiculitis. Zdrav.Bel. 8 no.7:67-68 J1  
'62. (MIRA 15:11)

1. Iz Grodnenskoj oblastnoy bol'nitsy (glavnyy vrach S.G.Dulayev).
2. Nervnoye otdeleniye Grodnenskoj oblastnoy bol'nitsy (for Sidorovich).

(NERVES, SPINAL—DISEASES)

SIDOROVICH, N.I.

Shortcomings of a textbook on the analysis of the economic activities of railroads ("Analysis of the economic activity of a railroad; basic operations." A.N. Grigor'ev.. Reviewed by N.I. Sidorovich). Zhel-dor. transp. 39 no.8:91-93 Ag '57.

(MLRA 10:9)

(Railroads--Accounts, bookkeeping, etc.) (Grigor'ev, A.N.)

AL'TSHULER, Grigoriy Aleksandrovich; LAKHMAN, Boris Nusimovich; SIDOROVICH, ~~Nelli Ivanovna~~; KOLTUNOV, G.S., retsenzent; OSHEMKOV, N.P., retsenzent; KOLTUNOVA, M.P., red.; BOEROVA, Ye.N., tekhn. red.

[Planning in railroad transportation] Planirovanie na zheleznodorozhnom transporte. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshchenia, 1961. 302 p. (MIRA 14:6)  
(Railroads--Management)

Михайлов, И. И.; Михайлов, И. И.

"Ukrainskiye parodnye motivy v sovremennoy odezhide."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow-3-10 Aug 64.

SIDOROVICH, S.Kh.

Effect of prolonged interrupted medicinal sleep on hypertension; electrocardiographic data. Klin. med., Moskva 31 No.6:90-91 June 1953.

(CML 25:1)

1. Candidate Medical Sciences. 2. Of the Department of Diagnosis and Special Pathology and Therapy of Internal Diseases of the Therapeutic Faculty of Second Moscow Medical Institute imeni I. V. Stalin.

SIDOROVICH, S.Kh., kandidat meditsinskikh nauk

Clinical and electrocardiographic dynamics of myocardial infarction.  
Terap.arkh. 26 no.4:56-59 J1-Ag '54. (MLRA 7:11)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnutrennikh  
bolezney lechebnogo fakul'teta II Moskovskogo meditsinskogo inistu-  
ta imeni I.V.Stalina.

(MYOCARDIAL INFARCT,  
clin. aspects & ECG)

(ELECTROCARDIOGRAPHY, in various diseases,  
myocardial infarct)

SIDOROVICH, S.Kh., kandidat meditsinskikh nauk

Prodromal period in myocardial infarct. Sov.med. 20 no.9:22-30  
S '56. (MLBA 9:11)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnutrennykh  
bolezney (zav. - prof. A.M.Damir) pediatricheskogo fakul'teta II  
Moskovskogo meditsinskogo instituta imeni I.V.Stalina.  
(MYOCARDIAL INFARCT, diag.  
prodromal period determ. & duration)

SIDOROVICH, S.Kh., kandidat meditsinskikh nauk

Significance of unipolar electrocardiography in diagnosis of focal lesions of the myocardium. Terap.arkh. 28 no.6:43-53 '56. ( MLRA 9:11)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnutrennikh bolezney (zav. - prof. A.M.Damir) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta imeni I.V.Stalina.

(MYOCARDIAL INFARCT, diagnosis,

ECG, unipolar technic (Rus))

(ELECTROCARDIOGRAPHY, in various diseases,

myocardial infarct, unipolar technic (Rus))



SIDOROVICH, S.Kh., ZAKUDINA, I.N. (Moskva)

Effect of castration on blood cholesterol in experimental (nutritional) atherosclerosis of the aorta. Pat.fiziol.i eksp.terap. 4 no.4:61-67 JI-Ag '60. (MIRA 14:5)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnutrennikh bolezney (zav. - prof. A.M.Damir) pediatricheskogo fakul'teta i tsentral'noy nauchno-issledovatel'skoy laboratorii II Moskovskogo meditsinskogo instituta.

(ARTERIOSCLEROSIS) (CASTRATION) (CHOLESTEROL)  
(AORTA)

SIDOROVICH, S.Kh.; SAPELKINA, I.M.

Effect of castration on experimental (alimentary) arteriosclerosis  
of the coronary arteries. Arkh. pat. 22 no. 11:64-68 '60.

(MIRA 14:1)

(CORONARY HEART DISEASE) (CASTRATION)  
(CHOLESTEROL)

SIDOROVICH, S.Kh.

Effect of novocaine on experimental (alimentary) atheromatosis of the aorta and on the cholesterol and lecithin in the blood. Sov,med. 24 no.11:52-56 N '60. (MIRA 14:3)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnutrennikh bolezney (zav. - prof. A.M.Damir) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta.

(NOVOCAINE)

(ARTERIOSCLEROSIS)

(CHOLESTEROL)

(LECITHINS)

DAMIR, A.M.; SIDOROVICH, S.K.; MAMINOVA, V.I.

Features of the course of myocardial infarct in women. Klin. med.  
38 no. 2:33-38 F '60. (MIRA 14:1)  
(HEART--INFARCTION)

SIDOROVICH, S.Kh., kand.med.rauk; SHANINA, V.A., kand.med.nauk (Moskva)

Analysis of roentgenological symptoms in myocardial infarct.

Klin.med. no.7 86-90 '61.

(MIRA 14:8)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii vnytrennikh bolezney (zav. - prof. A.M. Damir) pediatricheskogo fakul'teta II Moskovskogo meditsinskogo instituta na baze 4-y Gorodskoy klinicheskoy bol'nitsy (glavnyy vrach G.F. Papko).  
(HEART--INFARCTION) (HEART--RADIOGRAPHY)

DAMIR, A. M., prof.; SEDOVICH, S. Kh., kand. med. nauk

Postinfarction syndrome. Terap. arkh. no.7:3-10 '61.

(MIRA 15:2)

1. Iz kafedry diagnostiki, chastnoy patologii i terapii vnutrennikh  
bolezney (zav. - prof. A. M. Damir) pediatricheskogo fakul'teta  
II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(HEART—INFARCTION)

SIDOROVICH, S. Kh., kand. med. nauk; ZARUDINA, I. N.

Importance of determining transaminase in patients with acute and chronic coronary insufficiency. Terap. arkh. no.9:35-39 '61.  
(MIRA 15:2)

1. Iz kafedry propedevtiki vnutrennikh bolezney (zav. - prof. A. M. Damir) II Moskovskogo meditsinskogo instituta imeni N. I. Pirogova.

(CORONARY HEART DISEASE) (TRANSAMINASES)

SIDOROVICH, S.Kh., kand. med. nauk

The status of external respiration in acute myocardial infarct.  
Terap. arkh. 35 no.5:34-39 My'63 (MIRA 16:12)

1. Iz kafedry diagnostiki i chastnoy patologii i terapii  
vnutrennikh bolezney (zar. - prof. A.M. Damir) pediatricheskogo  
fakul'teta II Moskovskogo meditsinskogo instituta imeni N.I.  
Pirogova.



SIDOROVICH, S.Kh., kand. med. nauk

Prognosis of myocardial infarct in persons under 40 years of age.  
Sov. med. 23 no.1:11-14 Ja '65. (MIRA 18:5)

1. Kafedra diagnostiki chastnoy patologii i terapii vnutrennikh  
bolezney (zav. - prof. A.M.Damir) pediatricheskogo fakul'teta II  
Moskovskogo meditsinskogo instituta imeni Pirogova.

SIDOROVICH, S.L., kand. med. nauk

Myocardial infarct in young persons. Terap. arkh. 35 no.9:  
76-79 S\*63 (MIRA 17:4)

1. Iz kafedry diagnostiki, chastnoy patologii i terapii  
vnutrennikh bolezney (zav. - prof. A.M. Demir) pediatrichesko-  
go fakul'teta II Moskovskogo meditsinskogo instituta imeni  
N.I.Pirogova.

GEYER, V.G., prof., doktor tehnn.nauk; SIDOROVICH, V.G.

Basic technical objectives for an efficient utilization of  
electric power in mines. Ugol' Ukr. 4 no.4:5-7 Ap '60.  
(MIRA 13:8)

1. Donetskii industrial'nyi institut (for Geyer). 2. Nauchal'nik  
elektromekhanicheskogo upravleniya Stalinskogo sovnarkhosa (for  
Sidorovich).

(Electricity in mining)

USSR / Physics of High Molecular Substances.

D-9

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9111

Author : Kuvshinskiy, Ye. V., Sidorovich, Ye. A.

Title : Type KS Pendulum Elastometer

Orig Pub : Zh. tekhn. fiziki, 1956, 26, No 4, 878 - 886

Abstract : A pendulum elastometer was developed for the study of the elastic properties of rubber at temperatures ranging from 20 -- 120° under the conditions of impact compression lasting for 0.01 -- 0.1 seconds. The instrument permits the tested rubber to be characterized in terms of the magnitude of its rebound elasticity, the magnitude of the dynamic modulus of elasticity, and also the specific mechanical losses referred to the square of the average stress, and the specific mechanical losses referred to the square of the maximum deformation.

Card : 1/1

PA-2796

AUTHOR: KUVSHINSKIY, YE. V., SIIOROVICH, YE. A.

TITLE: Influence of Vulcanization on Dynamic Elastic Properties of Rubber.  
(Vliyaniye vulkanizatsii na dinamicheskiye elasticheskiye svoystva  
rezin, Russian.)

PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 4, pp 702 - 706 (U.S.S.R.)  
Received: 5 / 1957 Reviewed: 6 / 1957

ABSTRACT: From smoked sheets and from synthetic polyisopren - butadien + sodium -,  
divenyl - styrol and divenyl - nitril caoutchoucs a series of crude  
rubber samples was prepared, which differed in their degree of vul-  
canization. In order to obtain this effect, the contents of sulphur  
and of catalyzer substance varied as well as temperature and the time  
of vulcanisation. The dependence of the dynamic characteristics of  
rubber samples with different degrees of vulcanization can be ex-  
plained on the basis of these investigations in the following way:  
The chains of the vulcanized substance are interconnected by firm  
chemical and somewhat weaker physical bindings thus forming a net-  
work. With increasing temperature the number and rigidity of the lat-  
ter decreases considerably. The bounce-elasticity, on the other hand,  
increases, at the expence of increase of the flexibility of the  
chains, whereas a rise in temperature leads to a weakening and reduction  
of the number of physical bindings, which implies a reduction of the  
total number of chained domains which give the network its elasticity,  
and produces an increase of the number of chains which have lost their

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PA-2796

**Influence of Vulcanisation on Dynamic Elastic Properties of Rubber.**

connection with the network except at one end. Those chains slow down the motion of the elastic elements and diminish elasticity. In the same way the change of the dynamic Young's modulus with temperature can be explained. The properties of crude rubber samples originating from the same raw material are determined by the density of the vulcanizing network. A control of the conditionally balanced modulus makes it possible to obtain rubber with different characteristics which can be determined beforehand by means of the variation of recipes and of the conditions of vulcanization. The entire test takes only 20 min. (With 7 illustrations, 1 table and 4 citations from Slav publications).

ASSOCIATION: Not given  
PRESENTED BY:  
SUBMITTED: 26.9.1956  
AVAILABLE: Library of Congress

Card 2/2

3/181/61/003/011/035/056  
B108/B138

AUTHORS: Sidorovich, Ye. A., Kuvshinskiy, Ye. V.

TITLE: Shock compression of rubbers

PERIODICAL: Fizika tverdogo tela, v. 3, no. 11, 1961, 3487-3494

TEXT: Some time ago, the authors developed a KC (KS) pendulum type elastometer (ZhTF, 26, 4, 877, 1956). With this device strain data can be obtained from cylindrical rubber specimens and compared with theoretical results. The shock-stress signals as picked up by a piezo-quartz dynamometer (L. A. Layus. VINTI, Feredov. nauchno-tekhn. i'proizv. opyt, t. 32, 1958) are fed into an OHO-1 (ENO-1) oscilloscope. The force during the impact time is

$$F_K = \frac{V_0 M}{\sin^2 \varphi} \omega_K e^{-\lambda_K t} \sin(\omega_K t - 2\varphi), \quad (1)$$

$$F_M = \frac{V_0 M}{\sin^2 \psi} \omega_M e^{-\lambda_M t} \sin(\omega_M t - \pi). \quad (2)$$

respectively for a Kelvin-Voigt and for a Maxwellian model (subscripts K

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Shock compression of rubbers

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B108/B138

and  $M$ , respectively).  $V_0$  denotes the pendulum velocity at the beginning of the impact,  $M$  the pendulum mass, the  $\omega$ 's are the natural frequencies of the pendula. The experiments showed that the Maxwellian rather than the Kelvin model is applicable to shock deformation of rubbers. The force during the impact is a monotonic function of time and with no sudden rise at the beginning of impact. Resilience was found to be independent of the size of the specimen. According to the Maxwellian theory its logarithm is directly proportional to the impact time. The experiments showed, however, that resilience either does not change at all or rises slightly with decreasing impact time. This study led to the conclusion that in general the Maxwellian model is applicable although it cannot be used for an accurate prediction of frequency course. The Kelvin model holds true only for substances with a high resilience, i.e., having low mechanical losses. There are 4 figures, 1 table, and 4 references: 3 Soviet and 1 non-Soviet. The three references to English-language publications read as follows: L. Mullins, I. R. I. Trans., 22, 235, 1947; Rubb. Chem. Technol., 20, 998, 1947; Ye. V. Kubshinskiy, Ye. A. Sidorovich. Rubb. Chem. Technol., 32, 3, 662, 1959.

Card 2/3



Shock compression of rubbers

S/181/61/003/011/035/056  
B108/B138

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut sinteticheskogo  
kauchuka im. S. V. Lebedeva Leningrad (All-Union Scientific  
Research Institute of Synthetic Rubber imeni S. V. Lebedev,  
Leningrad)

SUBMITTED: June 23, 1961

Card 3/3

S/138/61/000/012/007/008  
A051/A126

AUTHOR: Sidorovich, Ye.A.

TITLE: Instrument for the determination of tension relaxation in rubber-like polymers

PERIODICAL: Kauchuk i rezina, no. 12, 1961, 38 - 39

TEXT: The shortcomings of the Polani-type dynamometer for measuring the tension relaxation are pointed out to be the necessity for replacing the springs of the dynamometer depending on the resilience modulus of the sample and the need for frequent testing of the spring calibration. These instruments are also said to have a relatively low sensitivity. High accuracy can be accomplished if lever-type scales are used in instruments of this kind. An instrument has been designed constituting automatically balanced scales by means of a contact-relay set-up, where one of the levers of the scales is connected with the sample, deformed (expanded or compressed) at a constant value; and the second lever has a cup attached to it, which is weighted down with a chain to balance the scales. The main part of the instrument (Fig. 1) is the technical scales type balance beam 1, leaning against a prism. When a compression test is being

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S, 138/61/000/012/007/008  
A051/A126

Instruments for the determination of ....

carried out, a reverser is used, with an upper compression plate connected to the lower clamp, and a lower plate, with the left lever of balance beam. The automatic balancing of the scales is accomplished by means of a tracing attachment of the contact-relay type, controlled by an electrical reverse motor (8). Depending on the under-loading or over-loading, a contact of either the left or right lever of the scale is switched on, rotating the motor in one or the other direction. A glass vessel with double walls (13), fastened to a carriage, which, in turn, moves along the directing rod, is used for testing at various temperatures. Compression tests are performed with small cylinders, 10 mm in diameter, and 20 mm height. The new instrument proved to be highly sensitive to changes in molecular weight of the tested rubbers, and to changes in concentration of the transverse bonds during vulcanization, when the resilience modulus reaches several kg/cm<sup>2</sup>. The described instrument is recommended for use in industrial laboratories. There are 4 figures and 13 references: 4 Soviet-bloc and 9 non-Soviet-bloc. The references to the 4 most recent English-language publications read as follows: G.W. Becker, Koll. Zeitsch., 166, 1 (1959) (German); G. Allen, G. Gee, B.E. Read, Trans. Farad. Soc., 55, 165 (1959); A. Mercurio, A.V. Tobolsky, J. Polym. Sci., 36, 467 (1959); J.R. Dunn, J. Scanlan, W.F. Watson, Trans. Farad. Soc., 55, 667 (1959).

Card 2/3

LAZEBNIKOV, Yu.S., dotsent, kand.tekhn.nauk; SIDOROVICH, Ye.A., inzh.

Determining the economic efficiency of the construction of railroad  
lines (based on the example of the Artyshta-Altayskaya line).  
Trudy NIIZHT no.33:108-122 '63. (MIRA 17:3)